

ABSTRACT

- A client-server based Storage Area Network (SAN) management system provides easy to use and uniform multiple user interfaces such as web interface and windows interface to the administrators to manage the SAN consisting of various types of devices. The integrated object-oriented management agent consists of
- 5 several components such as object manager, UI module, web server, user interface modules, error and status handler and device handler. The agent functionality can be dynamically expanded to handle new device types without stopping the existing agent, installing new agent and restarting it. The management system uses conglomerate methods to automatically discover SAN devices and their topology.
- 10 The error and status from SAN devices are handled in a hybrid method consisting of distributed, hierarchical and centralized schemes. A simple and easy device independent user interface is provided to download firmware to various types of devices hiding complex device dependent processes from the administrator. The system can manage multiple SANs. It can run on various environments such as an
- 15 appliance, host, in a cluster, or on a client station. Where reliability is required , it can run on a fault tolerant system as well as multiple copies can be run simultaneously.